Claims:

1. A cable for deployment in a well, comprising:

at least one insulated conductor;

an elastomeric jacket extruded over the insulated conductor, the jacket having a cylindrical exterior that has a longitudinally extending recess formed thereon; and

a metal tubing having a cylindrical inner wall and a longitudinally extending weld seam, the tubing enclosing the jacket with the inner wall in frictional engagement with the cylindrical exterior of the jacket, the seam being located adjacent the recess so as to avoid excessive heat to the jacket while the seam is being welded.

2. The cable according to claim 1, wherein the recess intersects the cylindrical surface at two points in the range from 50 to 90 degrees apart.

3. The cable according to claim 1, wherein the recess has a base that is located a selected distance from the seam, the selected distance divided by a radius of the inner wall of the tubing being in the range from .15 to .35.

4 The cable of claim1, wherein the tubing is formed of stainless steel.

5 The cable of claim 1, wherein the exterior of the jacket has a plurality of longitudinally extending grooves formed thereon.

6 The cable of claim 1, wherein the material of the jacket is an EPDM.

7 The cable of claim 1, wherein the insulated conductor has an inner layer of a polyimide material and an outer layer of a fluoropolymer material.

8 The cable of claim 1, wherein the tubing has an outer diameter no greater than one inch.

9. A cable for applying heat to a well, comprising:

a plurality of insulated conductors;

a jacket extruded directly over the insulated conductors, the jacket having a cylindrical exterior with a plurality of spaced apart longitudinally extending grooves and a longitudinally extending recess formed thereon, the recess intersecting the cylindrical surface at two point in the range from 50 to 90 degrees apart, the recess having a base that is located a selected distance from the seam, the selected distance divided by a radius of the inner wall of the tubing being the range from .15 to .35; and

a stainless steel tubing having a cylindrical inner wall and a longitudinally extending weld seam, the tubing having an outer diameter no greater than one inch, the tubing enclosing the jacket with the inner wall in frictional engagement with the jacket and the seam located adjacent the recess so as to avoid excessive heat to the jacket while the seam is being welded.

10. The cable of claim 9, wherein the exterior of the jacket has a plurality of longitudinally extending grooves formed thereon.

11. The cable of claim 9, wherein the outer diameter of the tubing is in the range from 0.75 inch to 1.00 inch..

12. A method for manufacturing an electrical cable, comprising:

(a) extruding an elastomeric jacket over at least one insulated conductor;

(b) rolling a metal plate around the jacket to form a cylindrical tubing having a seam; then

(c) welding the seam; then

(d) swaging the tubing to a lesser diameter wherein an inner wall of the tubing frictionally grips the jacket.

13. The method according to claim 12, wherein step (b) comprises forming the cylindrical tubing with an initial inner diameter a selected amount greater than an outer diameter of the jacket.

14. The method according to claim 12, wherein step(b) comprises forming the cylindrical tubing with an initial inner diameter at least .030 inch greater than an outer diameter of the jacket.

15. The method according to claim 12 wherein step (a) comprises forming the jacket with an EPDM material.

16. The method according to claim 12, wherein step (b) comprises forming the plate of stainless steel.

17. The method according to claim 12 wherein:

step (a) comprises forming a longitudinal recess in the jacket; and

step (b) comprises aligning the seam with the recess.

18. A method for manufacturing a heater cable for a well, comprising:

(a) continuously extruding a jacket over a plurality of insulated conductors, and providing the jacket with a cylindrical exterior having a plurality of longitudinally extending grooves and a longitudinally extending recess formed thereon;

(b) continuously rolling a stainless steel plate around the jacket to form a cylindrical tubing having a seam that is positioned over the recess in the jacket, and providing the tubing with an initial inner diameter that is greater than an outer diameter of the jacket;

(c) welding the seam; then

(d) swaging the tubing to a lesser diameter, wherein an inner wall of the tubing frictionally grips the jacket.

19. The method according to claim 18, further comprising cutting the tubing, the jacket and the insulated conductors at a desired length to form a lower end of the cable, then joining the conductors electrically to each other at the lower end.

20. The method according to claim 18, wherein step (d) comprises swaging the tubing to an outer diameter that is in a range from 0.75 inch to 1.00 inch.

21. A method for applying heat to a well having a production tubing suspended within casing, defining a tubing annulus between the casing and the production tubing, the method comprising:

(a) forming a heater cable by extruding a jacket over a plurality of insulated conductors, rolling a stainless steel plate around the jacket to form a cylindrical coiled tubing having a seam and an initial inner diameter that is greater than an outer diameter of the jacket, welding the seam, then swaging the coiled tubing to a lesser diameter, wherein an inner wall of the coiled tubing frictionally grips the jacket;

(b) electrically joining lower ends of the conductors and deploying the heater cable into the production tubing;

(c) with a vacuum pump located at the surface of the well, reducing pressure within the tubing annulus to below atmospheric pressure; and

(d) applying electrical power to the conductors to cause heat to be generated..

22. The method according to claim 21, wherein step (b) comprises lowering the heater cable into the production tubing.

23. The method according to claim 21, wherein step (b) comprises lowering the heater cable into the production tubing while the well remains live.